SUBCHAPTER A—MEASUREMENT SERVICES

PART 200—POLICIES, SERVICES, PROCEDURES, AND FEES

Sec.

AUTHORITY: Sec. 9, 31 Stat. 1450, as amended; 15 U.S.C. 277. Interprets or applies sec. 7, 31 Stat. 1450; 15 U.S.C. 275a.

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§ 200.100 Statutory functions.

(a) The National Institute of Standards & Technology (NIST) has been assigned the following functions (15 U.S.C. 271 *et seq.*):

(1) The custody, maintenance, and development of the national standards of measurement, and the provision of means and methods for making measurements consistent with those standards, including the comparison of standards used in scientific investigations, engineering, manufacturing, commerce, and educational institutions with the standards adopted or recognized by the Government.

(2) The determination of physical constants and properties of materials when such data are of great importance to scientific or manufacturing interests and are not to be obtained with sufficient accuracy elsewhere.

(3) The development of methods for testing materials, mechanisms, and structures, and the testing of materials, supplies, and equipment, including items purchased for use of Government departments and independent establishments.

(4) Cooperation with other governmental agencies and with private organizations in the establishment of standard practices, incorporated in codes and specifications.

(5) Advisory service to Government agencies on scientific and technical problems.

(6) Invention and development of devices to serve special needs of the Government.

(b) The calibration and testing activities of NIST stem from the functions in paragraphs (a) (1) and (3) of this section. NIST provides the central basis within the United States for a complete and consistent system of measurement; coordinates that system, and the measurement systems of other nations; and furnishes essential services leading to accurate and uniform physical measurements throughout this Nation's scientific community, industry, and commerce.

(c) The provision of standard reference materials for sale to the public is assigned to the Office of Standard Reference Materials of the National Measurement Laboratory, NIST. That Office evaluates the requirements of science and industry for carefully characterized reference materials, stimulates efforts of NIST to develop methods for production of needed reference materials and directs their production and distribution. For further information on standard reference materials see Subchapter B, Chapter II, Part 230, of this title.

§ 200.101 Measurement research.

(a) The NIST staff continually reviews the advances in science and the trends in technology, examines the measurement potentialities of newly discovered physical phenomena, and uses these to devise and improve standards, measuring devices, and measurement techniques. As new requirements appear, there are continual shifts of program emphasis to meet the most urgent needs for the measurement of additional quantities, extended ranges, or improved accuracies.

(b) The basic research and development activities of NIST are primarily

funded by direct appropriations, and are aimed at meeting broad general needs. NIST may also undertake investigations or developments to meet some specialized physical measurement problem of another Government agency, industrial group, or manufacturing firm, using funds supplied by the requesting organization.

§ 200.102 Types of calibration and test services.

(a) NIST has developed instrumentation and techniques for realizing standards for the seven base units of the International System of Units, as agreed upon by the General Conference of Weights and Measures. Reference standards have been established not only for these seven base units, but also for many derived quantities and their multiples and submultiples. Such reference standards, or equivalent working standards, are used to calibrate laboratory and plant standards for other organizations. Accuracy is maintained by stability checks, by comparison with the standards of other national and international laboratories, and by the exploration of alternative techniques as a means of reducing possible systematic error.

(b) Calibrations for many types of instruments and ranges of physical quantities are described in the NIST Special Publication 250 (SP 250). (See § 200.115 for details relating to the description of service items and listing of fees.)

(c) In recent years NIST has offered to the public new measurement services called measurement assurance programs. These programs are designed for laboratories whose measurement process involves the calibration of other standards. A measurement assurance program is a measurement quality control process. By use of carefully designed redundant measurements and measurements made on NIST transport standards a total uncertainty of the laboratories measurement process can be determined by NIST. The results of these tests are then reported to the customer as uncertainties of the customer's measurements relative to national standards.

(d) Special measurements not listed in SP 250 may be made upon request. These might involve unusual physical quantities, upper or lower extremes of range, higher levels of accuracy, fast response speeds, short durations, broader ranges of associated parameters, or special environmental conditions. Such inquiries should describe clearly the measurement desired. Indication of the scientific or economic basis for the requirements to be satisfied will be helpful in determining future NIST programs. Fees for work accepted will be based upon actual costs incurred.

(e) The principal emphasis of NIST is on those calibrations and other tests requiring such accuracy as can be obtained only by direct comparison with its standards.

(f) Other services which may be obtained include:

(1) Tests of measuring instruments to determine compliance with specifications or claims, when the evaluation is critical in national scientific or technical operations, and when suitable facilities are not available elsewhere; and

(2) Referee tests in important cases when clients are unable to agree upon the method of measurement, the results of tests, or the interpretation of these results, but have agreed in advance in writing to accept and abide by the findings of NIST.

(g) NIST reserves the right to decline any request for services if the work would interfere with other activities deemed by the Director to be of greater importance. In general, measurement services are not provided when available from commercial laboratories.

(h) Suggestions will be offered on measurement techniques and on other sources of assistance on calibration or measurement problems when the equipment and personnel of NIST are unable to undertake the work. The National Conference of Standards Laboratories issues a Directory of Standards Laboratories in the United States which perform calibration work (obtainable from NCSL Secretariat, c/o National Institute of Standards & Technology, Boulder, CO 80303). Those laboratories which perform testing are listed in the ASTM Directory of Testing Laboratories, Commercial and Institutional. (Directory available from the Amercian Society for Testing and